An operator in the northeast USA requested coring for a series of wells in an exploratory formation. They wanted to view the entire core at the site prior to sending to the laboratory to make critical decisions about drilling and developing wells in the field.

The exploratory formation had no coring offsets and no known information about the makeup of the shale/dolomite formation. An accurate, consistent core was necessary for three different wells in order to confirm the porosity, permeability, and saturation values of the formation. As an added challenge, the operator was running extended-length barrels that were taller than the derrick height.

Baker Hughes, a GE company (BHGE), researched the customer’s needs and recommended the BHGE 4-in. LaserCut™ liner system. Using the LaserCut system, entire 30-ft (9.1 m) sections could be opened and viewed on location. The LaserCut system enabled easy and quick access to the core samples at surface for quicker, more accurate decisions at the wellsite.

The BHGE HT30™ Max core barrel system was used to acquire 4-in. core samples. The HT30 Max system provided durable high-torque, double-shouldered connections to permit longer barrels in challenging conditions. A BHGE Talon™ Core PDC bit with dual chamfer technology helped extend bit life for the long coring runs and cut smooth core samples. This project, which had five 180-ft (54.8 m) core barrel runs and 99% recovery and efficiency, was the first where the LaserCut liner system and HT30 Max system were used together on one project.

BHGE executed the conventional coring project on the three wells without incident. More than 900 ft (274.3 m) of core was cut in five 180-ft (54.8 m) runs. Pristine samples with minimal drilling fluid invasion were provided to the customer.

BHGE performed each of the three coring jobs flawlessly and safely with no non-productive time (NPT), meeting all of the customer’s expectations from the original plan. Rig time was reduced by 6 days, saving the customer an estimated $300,000 USD.

Challenges
- No offset coring information available
- View of core needed at the wellsite to make critical drilling decisions
- Extended-length core barrel runs required

Results
- Rig time reduced by six days, saved an estimated $300,000 USD
- Entire 30-ft (9.1 m) sections were opened and viewed on location
- Three coring jobs performed flawlessly and safely with no NPT
- Pristine core samples acquired